CORPORATE GOVERNANCE AND FINANCIAL PERFORMANCE OF LONG-TERM INSURANCE COMPANIES IN SOUTH AFRICA

A Dissertation

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Master of Commerce in Development Finance

by

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ACKNOWLEDGMENTS

This is the section where the author does not need to be formal and can be free right? Let's begin… The work was a team effort and there are too many people to thank for various reasons. I apologise for forgetting anyone.

The first is the DEFIC team and my beyond legendary benefactor. The DEFIC team, thank you for initially accepting me to the program and giving me at least a passing grade on the first attempt in the coursework each time. My beyond legendary benefactor, what more could someone ask for – well a yacht and a space rocket would be grand but that is a hyperbolic request. Then my classmates the class hours were long to say least but it was a very interesting cohort to be a part of.

In producing the dissertation a massive shout-out to Dr Abdul Latif Alhassan my supervisor. Lightening feedback, pushing, critical questioning, Hilma is more than thankful ☺

Fortune! Thank you for pushing and encouraging me to finish the work. The paper was not going to be finished without your words and reminders.

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This is an academic paper so everyone else you are included in et. al. The informal in text reference of those acknowledge is: (Beyond Legendary Benefactor, DEFIC team, Alhassan, Mukuka, MCom Class of 2018, Kilumelume, et. al, 2018).

#GetSomePersonalityInThere #ApparentlyICanDoResearch

Okay. That is enough banter ☺.

Thank you to everyone who played a role in getting me to the end of this journey. I hope each reader finds the content interesting and informative.

Sincerely,
Kalwani Zyambo

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ABSTRACT

The research examines the effect between corporate governance and company-specific variables to financial performance among a sample of long-term insurance companies in South Africa from 2011 to 2016. The study employed a panel regression technique using board size, board independence, audit committee size and CEO tenure as proxies for corporate governance while controlling for firm size, reinsurance usage and leverage. The proxies used for financial performance were underwriting profits, return on assets (ROA) and returns on equity (ROE).

The findings show that board size is the only corporate governance variable that is statistically significant with financial performance in the sample of South African long-term insurance providers. The remaining corporate governance variables did not have a statistically significant relationship with financial performance because each company in the sample set them in line with the recommendations outlined in the King Report IV on Corporate Governance. The implication of the adherence to the recommendations in the King Report IV on Corporate Governance reduced the variation in corporate governance structures between the companies in the sample. The findings also show leverage as the only control variable that is statistically significant with financial performance in the sample.

The dissertation recommends that the corporate governance guidelines outlined in the King Report IV on Corporate Governance be made statutory in the South African long-term insurance sector, because these guidelines do not adversely affect the financial performance in a statistically significant way. Further, the dissertation recommends a board size ceiling be set in the sector to address the observed negative and statistically significant relationship between board size and financial performance. Finally, the dissertation recommends the use of regulation to limit the amount of leverage that companies in the sector can take on to address the observed negative and statistically significant relationship between leverage and financial performance.

Keywords: **Corporate Governance, Financial Performance, Panel-regression, Insurance, South Africa**

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GLOSSARY

Affirmative Action
Action favouring those who are from historically discriminated racial groups in South Africa.

Agent
A person who manages assets they do not own.

Balanced Board
A board of directors with an equal number of executive and non-executive directors

BRICS
Brazil, Russia, India, China and South Africa

Cadbury Report of 1992
A corporate governance framework established in England that focussed on the financial aspects of corporate governance

CIS
Chartered Institute of Secretaries

Combined Assurance Model
A model that optimises assurance coverage from managers, internal and external assurance providers on the risks faced by the company

Companies Act of 2008
The legal framework that governs business practices in South Africa.

Corporate Governance
The rules, practices and processes by which a company is controlled

Dependent Company
A company where the largest shareholders do not manage the company on a day-to-day basis

Executive Director
A director who is employed by the company for its day-to-day operations

Going-concern
A company being in a position to continue its business operations

IoD
Institute of Directors

Independent Director
A director without a financial interest in the company and not employed by the company for its day-to-day operations

JSE
Johannesburg Securities Exchange

JSE Main Board
Where the top 40 stocks on the JSE are traded

Lead Independent Director
A member of the board that is independent and provides leadership and advice to the board without compromising the chair when they are faced with a conflict of interest

Long Time Horizon
A time horizon longer than 60 months

Nest-Egg
The cumulative amount of money saved for retirement.

Non-Executive Director
A member of the board of directors who is not employed by the company for its day-to-day operations and has a financial stake in the company

Principal
A person who owns assets they do not manage.

Reinsurance
The insurance that is purchased by an insurance company

SACOB
South African College of Business

SAICA
South African Institute of Chartered Accountants

Shadow Banking
A collection of non-bank financial intermediaries that provide services similar to traditional commercial banks but outside normal banking regulations

Shadow Director
An individual who is not on the board of directors but whose instruction and direction conflict with that of an executive or non-executive director

Substance over Form
The economic substance of a transaction over its legal form

Theory X
A management theory that suggests workers are motivated using external incentives

Theory Y
A management theory that suggests workers are motivated internally

Two-Tier Board
A board of directors structure with two separate groups of directors i.e. an executive and supervisory board with distinct functions

Unitary Board
A board of directors structure with one group of directors

CHAPTER 1
INTRODUCTION

1.1 Background of the Study

In South Africa, long-term insurance consists of life cover, funeral insurance, retirement annuities, disability cover, medical insurance and hospital plans (Financial Services Board (FSB), 2017). The insured buy this insurance to protect against events that change their ability to generate income such as severe injury, health failure, retirement or death.

The structure of long-term insurance products is based on premiums that are paid to the insurance company over an extended time horizon before the insured client claims a pay-out. The danger embedded in such products is the potential mismanagement of the premiums received by the insurance company, especially for those with weak, corporate governance structures.

The mismanagement of premiums can affect the insured through a delay in payment, partial payment or a total non-payment of their claims. In effect exposing the insured to financial risks that they believed were covered.

An instance of corporate governance failure in South Africa occurred in 2017 with Steinhoff International Holdings NV. An accounting scandal that required the restatement of the company's financial statements was the peak of its corporate governance failure (Cronje, 2018). The implication of the scandal was a decrease in the market value of the company from 5581 cents per share on 2nd December 2017 to 129 cents per share on 30th June 2017 (INET BFA Database, 2018). The decrease in the share price represents a 97% loss of market value in the company and consequently, to its shareholders.

The decrease in market value in Steinhoff International Holdings NV affected institutional investors such as pension funds. Pension funds manage assets on behalf of beneficiaries to provide them with an income or nest egg after retirement. Therefore, the corporate governance failure in Steinhoff Holdings International NV not only affected the company but the ability of pension funds to meet their financial return

requirements. For this reason, the research looks to empirically examine the impact that corporate governance has on financial performance in South Africa's long-term insurance industry because corporate governance failure has economic and social consequences.

1.2 Problem Statement

Multiple studies support the notion that the development of the long-term insurance industry is positively related to development measured by GDP growth (Kugler & Ofoghi, 2005; Haiss & Sumegi, 2008; Lee, 2011 and Chen, Lee & Lee, 2012). Outreville (1996) explained the relationship arises because insurance reduces the risk of financial loss associated with investment hence encouraging investment activity. The implication of this relationship is the profitability of the insurance sector is important to an economy's development because profits facilitate the growth of the industry.

Research findings by Olajide (2013) and Najjar (2012) in Nigeria and Bahrain respectively show corporate governance enhances the profitability of insurance companies. In South Africa, the suggested corporate governance framework is the King Report IV on Corporate Governance. This framework is applicable to every company with a listed financial security on the JSE but only a recommendation for other companies. Therefore private long-term insurance providers in the country are not obligated to follow the guidelines outlined in the King Report IV on Corporate Governance. Therefore, public and private long-term insurers may use different corporate governance structures. The differences in structure may affect the profitability of the industry.

During the period 2013 to 2015 the South African long-term insurance industry's profitability has been weak (Alexander Forbes, 2015). The weak profitability coincided with GDP growth rates of 2.4852%, 1.8470% and 1.2795% (Thomson Reuters Eikon, 2018a) compared to the average GDP growth rates of 4.2842%, 3.5603% and 1.9912% in the comparable BRICS countries (Thomson Reuters Eikon, 2018b). This observation immediately leads to two questions. The first, could an improvement in the profitability of the long-term insurance industry act as a catalyst to get South Africa's GDP growth rate closer to the BRICS average? The second, how does corporate governance affect the profitability of long-term insurers in South Africa.

In light of low GDP growth and weak profitability in the long-term insurance industry. The dissertation will investigate the relationship between corporate governance and profitability in South Africa's long-term insurance industry.

1.3 Research Questions

The dissertation has two research questions that arise from corporate governance and financial performance, these are:

- Does corporate governance affect the financial performance of long-term insurance providers in South Africa?
- Do company-specific factors affect the financial performance of long-term insurance providers in South Africa?

1.4 Research Objectives

The study sets out to examine the relationship between corporate governance and financial performance by using corporate governance and company-specific factors. Therefore, the study has primary and secondary objectives.

Primary objectives

- To examine the relationship between corporate governance and financial performance for long-term insurance providers in South Africa.
- To highlight the corporate governance variables that need to be prioritised by long-term insurance providers in South Africa.

Secondary objective

- To examine the relationship between company-specific factors and financial performance for long-term insurance providers in South Africa.

1.5 Research Hypotheses

The dissertation examines two hypotheses. The first hypothesis empirically tests the relationship between corporate governance and financial performance. The second hypothesis empirically tests the relationship between company-specific factors and financial performance.

Hypothesis 1

H_0: there is a statistically significant relationship between corporate governance and financial performance for long-term insurance providers in South Africa.

H_1: there is no statistically significant relationship between corporate governance and financial performance for long-term insurance providers in South Africa.

Hypothesis 2

H_0: there is a statistically significant relationship between company-specific factors and financial performance for long-term insurance providers in South Africa.

H_1: there is no statistically significant relationship between company-specific factors and financial performance for long-term insurance providers in South Africa.

1.6 Justification of Research

The research looks to add to the academic literature on the relationship between corporate governance and financial performance. Further, corporate governance regulators, institutional investors and insurance companies can make use of this research.

The IoD (2016) through King IV Report on Corporate Governance in South Africa 2016 aims to achieve effective and ethical leadership. To meet its aim the King IV Report's objectives are to highlight strong performance, effective control, legitimacy and an ethical culture. The research can help companies in South Africa's long-term insurance industry achieve a stronger financial performance by providing empirical evidence on the relationship between corporate governance and financial performance.

Institutional investors, in the form of active asset managers, look to achieve higher than benchmark returns on a risk-adjusted basis. The research can help by highlighting the corporate governance factors that influence financial performance in long-term insurance providers in South Africa.

Insurance companies could use the research to optimise their corporate governance structures for financial performance.

1.7 Organisation of the Study

The dissertation consists of five chapters. The first is the introduction, followed by the literature review, methodology, findings and discussion of results, and conclusion and recommendations.

The literature review provides an in-depth overview of the research area selected. The review covers four areas; the South African long-term insurance market, corporate governance theories, the corporate governance framework in South Africa and empirical literature. The methodology provides an outline of the method used to conduct the research. The section describes; the research approach and strategy, sampling method, analytical framework, estimation technique, research reliability, estimation technique validity and the limitations of the study. The chapter on the discussion of findings presents the results obtained from the analysis and the interpretation of these results. The results discussed relate to; descriptive statistics, correlations between the variables and regression results. The conclusion and recommendations present insight gained from the previous section and how these findings can be used to help corporate governance regulators improve corporate governance policies in South Africa's long-term insurance market.

CHAPTER 2
LITERATURE REVIEW

2.1 Introduction

The chapter presents the scholarship relating to corporate governance and financial performance. The review manages the broad scope of corporate governance by focusing on theories on the topic and the framework and legislation used in South Africa.

The chapter comprises five subsections after the introduction. The first is an overview of South Africa's long-term insurance market. The second is an explanation of the theoretical underpinning of corporate governance. The third describes the practice of corporate governance in South Africa. The fourth examines prior academic literature relating to the topic, and finally, there is a conclusion to the chapter.

2.2 Overview of South African Long-Term Insurance Market

The FSB (2018) reports having 79 registered long-term insurance providers in South Africa. For the sake of this overview of the South African long-term insurance industry, we limit this investigation to 18 of these registered companies. The KPMG South African Insurance Survey 2017 uses 18 companies (KPMG, 2017), hence imposing this limitation.

The reported value of assets controlled by the South African long-term insurance industry in 2016 is R2 314 billion. The four largest insurers in the sector by total assets in 2016 are, Old Mutual Emerging Markets Limited, Sanlam Limited, MMI Holdings Limited and Liberty Limited. These insurers control 94% of the assets held by the industry, implying a concentrated industry.

Competition and income elasticity respectively, characterised the lower and higher income segments of the industry in 2016. In the lower segments, competition from direct insurers lowered client retention rates, while the macroeconomic environment highlighted the income elasticity in higher segments revealed by the decrease in the number of policyholders.

In 2016 a decrease in profit before tax of 11% in the industry was observed when compared to 2015. The poor performance of the South African equity market in the year and the strengthening of the Rand against leading currencies (i.e. United States Dollar, British Pound and Euro) drove the negative performance. The impact of the weak performance of the South African equity market resulted in reduced fees from the asset management parts of the business. The strengthening Rand meant earnings generated by foreign subsidiaries offshore fell in Rand terms. The figure below highlights the performance of the South African long-term insurance industry in 2016 relative to 2015.

Table 1: Snapshot of South African Long-term Insurance Industry

	2016 R billion	2015 R billion
Profit before tax	38	43
Tax	12	14
Effective tax rate (%)	31%	32%
Total assets	2314	2300
Administration, management and other expenses	75	73
Policyholder liabilities for insurance and discretionary contracts	721	730
Policy liabilities for investment contracts	1126	1078

SOURCE: KPMG South African Insurance Industry Survey 2017

2.3 Corporate Governance Theories

The subsection presents academic thinking relating to corporate governance. The ideas highlighted are of agency theory, stewardship theory, resource dependence theory and stakeholder theory.

2.3.1 Agency Theory

Agency is a contractual relationship where a principal (owner) engages single or multiple agents (managers) to make decisions on their behalf (Jensen & Meckling, 1976), McGregor (1960). Theory X of organisational behaviour is the basis of the principal-agent relationship observed between shareholders and executive management teams. Spremann (1987) presented agency theory as one where the agent (executive management) takes decisions that do not benefit the principal (shareholders) of the company. An example of an action in line with the theory is seeking financial compensation above the industry average. The reason for the agent acting in their own interest over that of the principal is misaligned incentives. The example above shows an agent's compensation is tied to gross profit margins while the principal's is to after-tax profits. The misaligned incentive structure gives rise to a moral hazard, referred to

as the principal-agent problem (Ross, 1973). The implication of this theory on financial performance is that a company should have greater oversight of its executive team to address the principal-agent problem. Therefore, this theory assumes the executive team of a company is motivated exclusively by financial reward.

2.3.2 Stewardship Theory

Donaldson (1990) explains stewardship as a situation where an agent's (manager) actions are in alignment with the interests of the principal (shareholder) McGregor (1960). Theory Y of organisational behaviour is the basis of stewardship theory. A recent investigation by April, Kukard and Peters (2013) present stewardship theory as one where the agent makes management decisions in a way that benefits the principal of the company. An example of an action in line with the theory is seeking financial compensation in line with, or slightly below, the industry average. The reason for the agent acting in alignment with the principal's interests could be that the agent is concurrently a principal.

The Stewardship theory's impact on financial performance is less oversight of the executive management team. Therefore, this theory assumes the executive management team of a company is motivated by more than only financial reward.

2.3.3 Resource Dependence Theory

Resource dependence from a company perspective suggests the external resources available to a company determine the activities it can perform. Pfeffer (1972) investigated this idea through the lens of corporate mergers.

A recent investigation by Dobbin and Schoonhoven (2010) presents resource dependence theory as one where a company’s structure and strategy are influenced by the resource flows available to it. An example of a resource flow available to a company is human capital in the form of a knowledge worker. The reason behind company structure and strategy being influenced by human capital arises from productivity differences. Workers with higher amounts of human capital tend to be more productive than those with lower amounts. Therefore, they require less oversight than their counterparts. The lower level of oversight may culminate in a less bureaucratic company structure and strategy in order to leverage a higher level of productivity.

The implication of this theory on financial performance is that a company should look to maximise the expertise and social capital on its board in order to increase the resources available to the company. For this reason, the resource dependence theory assumes that all the expertise and social capital held by board members will be provided to the company.

2.3.4 Stakeholder Theory

Freeman (2010) present stakeholder theory as one where groups influence a company's strategy and whose support is critical to the existence of the company but does not encompass the entirety of society. The implication of the theory on corporate governance is that a company should aim to cater to the interests of all its stakeholders. The reason for this is to incentivise each key stakeholder to act in the interest of the company. Therefore, this theory assumes the shareholder is not the only stakeholder in the company.

2.4 Corporate Governance in South Africa

The subsection highlights the framework that underpins corporate governance in South Africa. This framework is the King Report IV on Corporate Governance. The subsection shows the evolution of the King Report from the first publication in 1994 to the recent publication in 2016.

The King Report I on Corporate Governance for South Africa, which was presented in 1994, is the seminal formal framework for corporate governance in the country. The report was established to create a framework of corporate governance especially for dependent companies not to focus exclusively on control to the detriment of entrepreneurial enterprise. The rationale behind King Committee's (1994) decision was that emerging market economies depend on entrepreneurs to take business risks and initiative.

The King Committee, at the request of the IoD, established it with the support of SACOB, CIS, SAICA, JSE and The South African Institute of Business Ethics (King Committee, 1994). The Cadbury Report of 1992 in England influenced the King Report I. The King Report I expanded on the scope of the Cadbury Report of 1992 to include a Code of Ethical Practices and consider the 'special circumstances' in South Africa, in addition to the financial aspects of corporate governance (King Committee, 1994).

The King Committee (1994) outlined the 'special circumstances' as a lack of human capital in the country and, more importantly, the rise of the entrepreneur from disadvantaged communities. The lack of human capital brought about a lack of separation in the positions of Board Chair and Chief Executive Officer (CEO) and a lack of credible independent directors to fill the role of non-executive board members (King Committee, 1994).

In 2002, the King Report II on Corporate Governance for South Africa was presented. The report was an update to the corporate governance guidelines for affected companies in South Africa. The changing business environment in the country was the reason for modernising the report. The report increased the scope of institutions affected to include every company with tradable securities on the JSE and public enterprises that fall under the Public Finance Management Act and Local Government.

In 2009 the King Report III on Corporate Governance for South Africa was presented. The report was an update to the corporate governance guidelines aimed to limit inconsistencies between the report of 2002 and the Companies Act of 2008. The resultant update of the King Report III affected guidelines for the board of directors and audit committee.

In 2016 the King Report IV on Corporate Governance for South Africa was presented. The report was an update to the corporate governance guidelines in South Africa and aimed to embed seventeen corporate governance principles in corporate practice. The implication of the report was an increase in the scope of affected institutions to encompass every entity operating in the country.

The IoD (2016) outlined seventeen corporate governance principles. The objectives of these principles were to steer and set a company’s strategic direction, obtain policy approval and planning, oversee and monitor the company, and ensure accountability in the company. The table below presents the differences between the four King Reports on Corporate Governance with a focus on board and audit committee functions.

Table 2: The Evolution of King Report

	King Report I on Corporate Governance (1994)	**King Report II on Corporate Governance (2002)**	**King Report III on Corporate Governance (2009)**	**King Report IV on Corporate Governance (2016)**
Applicable entities	Companies listed on the JSE main board, Large public entities, Banks, Financial and insurance entities, Large unlisted public companies.	Every company trading securities on the JSE, Public enterprises that fall under the Public Finance Management Act and Local Government, Banks, Financial and insurance companies, Large unlisted public companies.	Every company trading securities on the JSE, Public enterprises that fall under the Public Finance Management Act and Local Government, Banks, Financial and insurance companies, Large unlisted public companies.	Every entity operating in South Africa
Scope of report	Directors, auditors, stakeholder links, ethics and compliance	Directors, risk management, audit, stakeholder links, sustainability, ethics and compliance	Directors, risk management, audit, stakeholder links, sustainability, ethics and compliance	Directors, risk management, audit, stakeholder links, sustainability, ethics and compliance
Recommended board structure	Unitary	Unitary	Unitary	Unitary
Type of board members	Executive and Non-executive	Executive and Non-executive	Executive and Non-executive	Executive and Non-executive
Functions of directors	Oversight and setting company strategy, Individually and collectively responsibility to shareholders, Ensure the company is a going-concern.	Oversight and setting company strategy, Individually and collectively responsibility to shareholders, Ensure the company is a going-concern, Risk management in the company, Create and enforce a code that addresses conflicts of interest, State the assumptions used to rate a company as a going-concern, Identify a company's key performance and risk indicators.	Oversight and setting company strategy, Individually and collectively responsibility to shareholders, Ensure the company is a going-concern, Concurrently consider risk management, performance and sustainability in the company, Create and enforce a code that addresses conflicts of interest, State the assumptions used to rate a company as a going-concern, Identify a company's key performance and risk indicators.	Similar to King Report III on Corporate Governance (2009) but with a focus on integrated thinking that encompasses; Stakeholder inclusivity, Corporate citizenship, The role of the organisation in society.
Function(s) of audit committee	Provision of information	Provision of information	Provision of information	Provision of information

The King Committee (1994), IoD (2002), IoD (2009) and IoD (2016) recommends the use of a unitary board structure over a two-tier board structure. The recommendation looks to prevent artificial compartmentalisation of business activities. To meet the functions of oversight and setting company strategy, the report recommended the board of directors should meet once a quarter each year, furthermore they should be in a position to lead and oversee the company. Additionally, they should be bound by duties of loyalty and of care and skill and have an equal number of executive and non-executive board members. Moreover, the board should preferably have an independent chair – or two very high calibre non-executive directors – and set a company system for worker participation (King Committee, 1994).

To achieve these objectives the report recommended the following tasks to executive and non-executive directors. First, they should perform in a proper manner and be informed about the company's affairs. Additionally, they should never permit a conflict of interest and should only make decisions on behalf of the company with sufficient information. Moreover, they should disclose potential conflicts of interest, act independently, and strive to increase shareholder value. Equally important is a need to report to stakeholders using the standard of substance over form, act with integrity and in the interest of the company in company dealings. At the same time, to use their expertise for the company's benefit, get board approval for corporate strategy, and use independent professional legal advice when faced with uncertainty. Finally, they should ensure the company prepares and follows annual budgets, has an affirmative action plan and treat information learnt as a director as confidential (King Committee, 1994).

The information the audit committee is expected to provide relates to company assets, accounting records and internal control systems. To fulfil this function the committee recommended a non-executive director should chair the audit committee. Furthermore, the audit committee should provide committee meeting minutes to senior management, external auditors and internal auditors and communicate freely with the Chair, CEO and Chief Financial Officer (CFO). Moreover, they should consult independent experts at the company's expense when required, and have the external auditor, internal auditor and CFO present at all committee meetings. Finally, the committee should preferably consist of a majority of non-executive directors (King Committee, 1994).

The IoD (2002) provided additional guidelines. These guidelines discourage shadow directors, and should state their capacity (i.e. executive, non-executive or independent) in the annual report. Committee members should be prepared and able where necessary to express disagreement with colleagues on the board and be prohibited from dealing in company securities for a period before the announcement of financial results for directors of JSE listed companies (IoD, 2002).

The guidelines to the audit committee recommend that committee members should be financially literate and able to provide the current terms of reference of the committee to shareholders on demand. Additionally, they should expect external auditors to express an individual opinion on the company and, discuss the company with external auditors at least once a year without the executive team. Furthermore, they should avoid opinion 'shopping' on accounting matters from external auditors, have formal terms of reference, and seek approval from shareholders on the appointment of external auditors. Finally, the committee should be periodically monitored by the board (IoD, 2002).

The IoD (2009) updated guidelines for the board of directors in light of the amended Companies Act of 2008, and recommended the board of directors consider risk, performance and sustainability simultaneously. These considerations meant leadership of the company should have an ethical foundation and, be responsible for information technology governance. Additionally, they should appreciate that stakeholder perception affects the company's reputation. Finally, they should assign the CEO and establish a framework for delegation of duties and have an independent chair or a lead independent director.

The updated guidelines for the audit committee, in light of the amended companies act, recommended that the audit committee should consist of members who have experience in the role and are financially literate, able to oversee integrated reporting and to use a combined assurance model in all assurance activities.

2.5 Prior Research Literature

The subsection examines academic research on the topic of corporate governance and financial performance. The financial performance metrics reviewed against corporate governance are profitability and efficiency.

2.5.1 Corporate Efficiency and Corporate Governance

The topic on the relationship between corporate efficiency and corporate governance in the insurance industry has been written on extensively in various parts of the world. The region that saw the relationship investigated in great detail was Asia, with work carried out by Wang, Jeng and Peng (2007), Huang, Hsiao and Lai (2007) and Hsu and Petchsakulwong (2010) in Taiwan. The Asian financial crisis of 1997 may have acted as a catalyst to obtain empirical knowledge on the subject in the region. In South Africa, Boakye (2018) examined this relationship because the author identified the insurance and pension industries as those that require greater corporate governance scrutiny since they manage large pools of public capital.

The prevailing methodology in the three studies cited above is panel regression. Only Wang et al. (2007) used a multiple linear regression as a methodology because their research considered a single year. The three studies made use of panel regression as the second phase of the methodology after data envelope analysis (DEA) that was used to obtain a score that encompassed technical, allocative and cost efficiency. The study by Wen-Yen Hsu and Pongpitch Petchsakulwong (2010) also included revenue efficiency.

DEA is a mathematical programming technique that does not make assumptions on the input and output variables used in the analytical process (Cummins & Weiss, 2013). The objective of the analysis is to create a frontier that shows the score that the most efficient company would get given a defined set of circumstances (Cummins & Weiss, 2013). Each of the studies in Asia used a different set of input and output variables to calculate their efficiency score. Below is an illustration of the variables used by Huang et al. (2007) and Wang et al. (2007) who carried out studies in the same year.

The input and output variables for the DEA used in Huang et al. (2007) were; premiums for life annuities, health and accident, and group insurance as outputs and equity; with leverage, personnel expenses and personnel expenses per capita as inputs. Conversely, Wang et al. (2007) used benefit payments to individual alive, personal accident, health and group insurance, and increase in life policy reserve as inputs for the life insurance industry. On the other hand, number of office hour labour, number of agent labour, equity capital and unit of business service were used as outputs. For the property-liability insurance industry, the inputs used were; losses incurred and investment, while

the outputs were; number of labour, unit of business service, debt and equity. The difference in the variables does not undermine either score. Therefore, it does not negatively impact the reliability of the results obtained from either study.

The results obtained from the study by Huang et al. (2007) showed that ownership concentration and board independence is positively and statistically significantly related to insurance company efficiency. The result with regard to ownership concentration suggests directors in Taiwanese insurance companies act in accordance with the stewardship theory. Filatotchev, Lien and Piesse (2004) found that directors and supervisors of directors on Taiwanese company boards are required to own shares of the company's board they serve. The requirement shows the positive relationship has its foundation in agency theory.

The results from Huang et al. (2007) with regard to board independence are supported by Hardwick, Adams and Zou (2011) in the United Kingdom life insurance industry (UK); Huang, Lai, McNamara and Wang (2011) in the United States of America (USA) property-liability insurance industry; and Hsu and Petchsakulwong (2010) in the Thailand non-life insurance industry. The results found by Wang et al. (2007) found the opposite relationship between board independence and corporate efficiency.

The research conducted by Boakye (2018) made use of management expenditure, sales and administration costs, total debt and total equity as inputs. The rationale for Boakye (2018) inputs stem from arguments made by Eling and Luhnen (2010). The argument suggests that the inputs for the life insurance market can be grouped into labour and business services, debt capital and equity capital. The outputs used in Boakye (2018) were; incurred benefits and invested assets. The rationale for these outputs also stems from arguments made by Eling and Luhnen (2010) that insurance companies play a key role in risk-pooling and financial intermediation.

Boakye's (2018) findings with regard to non-executive directorship, and by extension board independence, is negatively and statistically significantly related to insurance company efficiency. The result suggests executive directors in the South African long-term insurance companies act in accordance with stakeholder theory. The study further found audit committee size is positively and statistically significantly related to

insurance company efficiency. The result suggests that audit committees in South African life insurance companies are beneficiaries of the expertise contained in larger committee sizes, thereby adhering to the resource dependence theory. Boakye's (2018) findings with regard to board independence are at odds with similar studies carried out by Hardwick, Adams and Zou (2011) as well as Huang, Lai, McNamara and Wang (2011) in the UK and the USA respectively. However, the result is supported by Kader, Adams and Hardwick (2010) in the Middle East. The difference in results could be due to emerging economies having a smaller pool of suitable non-executive board candidates in comparison with developed economies.

Wang et al. (2007) uses multiple linear regression on cross-sectional data. This method limits the reliability of an interpretation of these results beyond the time period they investigated. Kader, Adams and Hardwick (2010) in the Middle Eastern 'takaful' (insurance) industry and Boubakri, Dionne and Triki (2008) in the USA insurance industry obtained similar findings providing anecdotal validity to Wang et al. (2007).

2.5.2 Corporate Profitability and Corporate Governance

The relationship between corporate profitability and corporate governance in the insurance industry has been written on extensively in various parts of the world. The region that saw the relationship investigated in great detail was Africa with work carried out by Olajide (2013) in Nigeria, Alhassan, Addison and Asamoah (2015) and Asare, Alhassan, Asamoah and Ntow-Gyamfi (2017) both in Ghana.

The methodology in each of the studies cited above is panel regression. Three of the four studies used: return on assets (ROA) and return on equity (ROE) as the proxy for corporate profitability. Torres-Reyna (2007) explains panel analysis as an econometric technique used for analysing cross-sectional and longitudinal data and makes assumptions on the variables used in the analytical process. A panel analysis could be carried out by using fixed effects or random effects. Torres-Reyna (2007) goes on to explain that a fixed effects analysis assumes that unobserved factors between the dependent and independent variables are constant, while unobserved factors are not constant in a random-effects analysis.

The independent variables used in each study had a variation in the corporate governance proxies used in the panel regression. Olajide (2013) used: board size; CEO duality; institutional ownership; audit committee size; dividend pay-out ratio; number of shareholders in the company; and, annual general meeting (AGM). Alhassan et al. (2015) used: market structure proxies in the form of the Herfindahl Hirschman Index (HHI) and concentration ratios; ROA; firm size; underwriting risk; leverage; GDP growth rate; and, inflation rate. Asare et al. (2017) used: ROA, underwriting profit, Value Added Intellectual Capital (VAIC^{TM}), human capital efficiency, structural capital efficiency, capital employed efficiency, risk, firm size and leverage.

Olajide (2013) found a positive and statistically significant relationship between board size and financial profitability. The finding is in accordance with the resource dependence theory. Almajali, Alamaro and Al-Soub (2012) support the existence of resource dependence theory in the insurance industry through its conclusion that management expertise had a positive impact on ROA for insurance companies listed on the Amman stock exchange. Akotey et al. (2013) contradicted Olajide (2013) and Almajali, Alamaro and Al-Soub (2012) with their results of a negative relationship between management expenses and sales profitability in Ghana's life insurance industry. Najjar (2012), in the Bahraini insurance industry, provides further support to Olajide (2013).

Connelly and Limpaphayom (2004) conducted a similar study in the Thailand life-insurance industry but found no relationship between board size and corporate profitability. Connelly and Limpaphayom (2004) used a multiple linear regression using cross-sectional data. This method limits the reliability of an interpretation of their results beyond the time period they investigated.

2.6 Conclusion

There is abundant empirical evidence that suggests there is a relationship between corporate governance and corporate performance. The implication of the abundance of literature is a lack of an explicit knowledge gap. Existing literature does not provide consistent results on the relationship between corporate governance variables such as board independence and size with corporate performance.

Huang et al. (2007), Huang, Lai, McNamara and Wang (2011), Hardwick, Adams and Zou (2011) and Hsu and Petchsakulwong (2010) found a positive relationship between board independence and corporate performance while Kader, Adams and Hardwick (2010) and Boubakri, Dionne and Triki (2008) found the opposite to be true. The relationship between board size and corporate performance in previous studies had similar contradictions. Olajide (2013) and Najjar (2012) found a positive relationship between board size and corporate performance while Connelly and Limpaphayom (2004) found a negative one.

The contradictions within the results of these studies justify further investigation into the relationship between corporate governance and corporate performance. The research will add to the literature on the topic to help clarify the nature of this relationship. The investigation will be carried out on the South African long-term insurance industry.

CHAPTER 3
METHODOLOGY

3.1 Introduction

The chapter has seven subsections after the introduction. The first is an overview of the sampling method and the data period. The second is an explanation of the research approach and strategy used to carry out the research. The third is an explanation of the analytical framework used to satisfy the objectives of the research. The fourth is a justification of the estimation technique used in the study. The fifth and the sixth are justifications for the reliability and validity of the research method used to conduct the research respectively. Finally, a presentation of the limitations of the research method is provided.

3.2 Research Approach and Strategy

The study uses a descriptive research design to deduce the relationship between corporate governance and financial performance in South Africa's long-term insurance market. A quantitative approach is used to carry out the research. The data comes from a secondary source, the published annual reports of each company.

3.3 Sampling Method and Data Period

The study makes use of purposive sampling of long-term insurance providers in South Africa for the years 2011 – 2016. The subsection begins by explaining the rationale behind the sampling method and then closes by explaining the rationale behind the data period used to conduct the research.

3.3.1 Sampling Method

A non-probability sampling method, being convenience sampling, is used to ensure that the sample does not have missing data. The convenience sampling method was chosen to avoid statistical bias arising from missing data. The missing data would require mathematical adjustments to correctly interpret the results from the analysis.

3.3.2 Data Period

2011 to 2016 is the data period selected to carry out the research. The two reasons for selecting this period are one, it is representative of the current economic environment faced by long-term insurance providers in the South African economy; and two, it contains all the necessary data points to carry out the analysis.

3.4 Analytical Framework

The analytical framework used to conduct the research is a regression. The variables used to perform the regression are: ROA; ROE; board size; board independence; audit committee size; CEO tenure; firm size; reinsurance usage; and, financial leverage.

The subsection begins by explaining the regression equation. Following this is a description of the regression equation variables. The conclusion is a description of how the regression equation variables are measured.

3.4.1 Regression Equation

The regression method used to analyse the data for the research is a panel regression. Olajide (2013), Akotey, Sackey, Amoah and Manso (2013) used the same method to conduct similar studies. There are three reasons for selecting this type of analytical method as proposed by Hsiao (2003). The first assumes heterogeneous observations; the importance of this assumption is it helps to mitigate against biased results.

The second reason assumes the method provides more information on the data and its variability and less collinearity among variables. The data are longitudinal panel regressions that would help reduce the effect of collinearity of the variables because they move together through time.

The third reason assumes the method is better than multiple linear regression for studying relationships that appear to be stable. Corporate governance variables appear to be stable because they need shareholder approval to change. The formal regression equation is presented below.

$$fp_{i,t} = \beta_0 + \beta_1 bs_{i,t} + \beta_2 bind_{i,t} + \beta_3 acsize_{i,t} + \beta_4 ceot_{i,t} + \beta_5 fs_{i,t} + \beta_6 riu_{i,t} + \beta_7 lev_{i,t} + \varepsilon_{i,t}$$

Where $fp_{i,t}$ denotes the financial performance in the form of ROA and ROE of the long-term insurer, i and year, t; , bs refers to board size; , $bind$ refers to the proportion of non-executive board members; , $acsize$ refers to audit committee size; , $ceot$ refers to CEO tenure; $acind$ denotes audit committee independence; , fs refers to firm size;

$, riu$ denotes reinsurance usage and $, lev$ refers to financial leverage of the insurance provider.

The remainder of the section continues with a statistical description of the regression variables. The second is a test for perfect collinearity in the regression variables to meet the assumption of imperfect collinearity of independent variables. The omission of one of the perfectly correlated variables will ensure imperfect collinearity. The third is an analysis of the nature of the relationship in the independent variables to meet the assumption of linear parameters. Any non-linear variable will be mathematically transformed to ensure that it is linear.

3.4.2 Description of Dependent Variables

The study employs three proxies for financial performance for long-term insurance companies: they are underwriting profits (undp), return on equity (ROE) and return on assets (ROA).

- **Underwriting Profits (undp)**

The financial return obtained from the premiums relative to the long-term insurance provider's asset base. The company's annual financial statements are the source of this data. Underwriting profits are expected to improve an insurance company's financial performance.

- **Return on Equity (roe)**

The financial return obtained by equity holders in the long-term insurance provider. The company's annual financial statements are the source of this data.

- **Return on Assets (roa)**

The financial return on the total assets held by the long-term insurance provider. The company's annual financial statements are the source of this data.

3.4.3 Description of Independent Variables

The study employs four proxies for corporate governance and three control variables. The corporate governance proxies are; board size (bs), board independence (bind), audit

committee size (acsize) and CEO tenure (ceot). The control variables are firm size (lfs), reinsurance usage (riu) and leverage (lev).

- **Board Size (bs)**

The number of executive and non-executive directors on the board of directors. The company's annual report is the source of this data. Through the lens of the resource dependence theory, a larger board size is expected to improve the financial performance of insurance companies. The positive relationship arises because the company would have access to a larger pool of expertise to govern it. Olajide (2013) and Najjar (2012) found results that confirmed this expectation while Connelly and Limpaphayom (2004) did not.

- **Board Independence (bind)**

The proportion of non-executive board members in the board of directors. The company's annual report is the source of this data. Through the lens of agency theory, a higher proportion of non-executive directors on the board is expected to improve the financial performance of insurance companies. The positive relationship arises because of the increased oversight of executive directors. Huang et al. (2007), Huang, Lai, McNamara and Wang (2011), Hardwick, Adams and Zou (2011) and Hsu and Petchsakulwong (2010) found results that confirmed this expectation while Kader et al. (2010) and Boubakri et al. (2008) did not.

- **Audit Committee Size (acsize)**

The number of members on the audit committee of the long-term insurance provider. The company's annual report is the source of this data. Through the lens of the resource dependence theory, a larger audit committee size is expected to improve the financial performance of insurance companies. The positive relationship arises because the company would have access to a larger pool of expertise to carry out the audit function. Olajide (2013) found results that confirmed this expectation.

- **CEO Tenure (ceot)**

The number of years the CEO has been in position in the long-term insurance provider. The company's annual report is the source of this data. Through the lens of stewardship

theory, a CEO with a longer tenure is expected to improve financial performance in insurance companies. The positive relationship arises because the CEO is believed to act in the interest of the company and not to maximise personal financial gain. Adams and Jiang (2016) found results that confirmed this expectation.

- **Firm Size (lfs)**

The value of assets held by the long-term insurance provider. The company's annual financial statements are the source of this data. Through the lens of economies of scale, an increase in company size is expected to improve financial performance in insurance companies. The positive relationship arises because an increase in company size reduces average fixed and variable costs. Najjar (2012) and Adams and Jiang (2016) found results that support this expectation.

- **Reinsurance Usage (riu)**

A situation when the long-term insurance provider makes use of reinsurance. The company's annual financial statements are the source of this data. The use of reinsurance by insurance companies is expected to improve financial performance. The positive relationship arises because reinsurance has a negative relationship with its claims pay-out function. Wang et al. (2007) found results that confirmed this relationship but they were not statistically significant.

- **Leverage (lev)**

The level of debt used by the long-term insurance provider. The company's annual financial statements are the source of this data. Leverage is expected to have an ambiguous relationship with financial performance in insurance companies. The expectation is ambiguous because leverage augments gains and losses.

Table 3: Measurement of Regression Variables

VARIABLE	TYPE OF VARIABLE	MEASUREMENT	UNIT OF MEASUREMENT
Financial Performance Variables			
Return on Assets (ROA)	Dependent Quantitative	Profit after tax / Total assets	Ratio
Return on Equity (ROE)	Dependent Quantitative	Profit after tax / Equity	Ratio
Underwriting Profits (undp)	Dependent Quantitative	Underwriting Profit / Total assets	Ratio
Governance Variables			
Board Size (bs)	Independent Quantitative	Number of directors sitting on the board	Integer
Board Independence (bind)	Independent Quantitative	Number of non-executive board members / Total number of board members	Ratio
Audit Committee Size (acsize)	Independent Quantitative	Number of members in the audit committee	Integer
CEO Tenure (ceot)	Independent Quantitative	Number of years CEO has been running the firm	Integer
Control variables			
Firm Size (lfs)	Independent Quantitative	The natural log of the firm's asset base	Integer
Reinsurance Usage (riu)	Independent Quantitative	Reinsurance / Gross Premiums	Ratio
Leverage (lev)	Independent Quantitative	Long-term debts / Total assets	Ratio

3.5 Estimation Technique

The research analysis will make use of pooled OLS, fixed effects and random effects estimation techniques. The methodology is in line with similar studies conducted by Olajide (2013), Akotey and Sackey (2013) and Najjar (2012). Below is a presentation of the regression equation of a pooled OLS estimation technique.

$$fp_{i,t} = \beta_0 + \beta_1 bs_{i,t} + \beta_2 bind_{i,t} + \beta_3 acsize_{i,t} + \beta_4 ceot_{i,t} + \beta_5 fs_{i,t} + \beta_6 riu_{i,t} + \beta_7 lev_{i,t} + \mu_{i,t}$$

The estimation technique assumes E (μ) = 0 and var (μ) = δ^2. The assumption implies the error term μ is independent across each panel. The assumption of error term independence affects the model's independent variables by removing the serial correlation between the observations and the heteroskedasticity of error terms. The results of this estimation technique provide an initial understanding of the relationship between the independent variables and the dependent variable. The reason the results are a starting point is because the technique assumes the errors are identical and independently distributed in var (μ) = δ^2 the implication is it is suitable to use ordinary least square estimation, but these results have a potential bias.

To overcome the bias of pooled OLS, Torres-Reyna (2007) recommends the use of fixed and random effects. Below is a presentation of the regression equation for fixed and random effects.

$$fp_{i,t} = \beta_0 + \beta_1 bs_{i,t} + \beta_2 bind_{i,t} + \beta_3 acsize_{i,t} + \beta_4 ceot_{i,t} + \beta_5 fs_{i,t} + \beta_6 riu_{i,t} + \beta_7 lev_{i,t} + \varepsilon_{i,t}$$

$$\varepsilon_{i,t} = \alpha_i + \eta_{i,t}$$

The estimation technique decomposes the error term into two parts; the first is a constant unobserved effect denoted by α_i and the second is a common error term that varies across panels denoted by $\eta_{i,t}$. The difference between the fixed estimation technique and the random one relates to the correlation between the unobserved variable and independent variables. According to the assumptions of fixed effects estimation technique assumes α_i is correlated with the independent variables. The assumption eliminates all time-invariant explanatory variables in the model that cause a bias in the estimated coefficients (Schmidheiny, 2016).

According to the assumptions of random effects estimation technique α_i is not correlated with the independent variables. The implication of this assumption is time variant explanatory variables may be included and analysed in the model. The inclusion is in the intercept causing the constant to change across time periods (Schmidheiny, 2016). The dissertation relies on the Hausman test to determine the nature of the correlation between the unobserved variable and independent variables.

3.6 Research Reliability

Conducting three separate panel analyses will ensure the reliability of the relationship between corporate governance and financial performance. The first analysis will use ROA as the dependent variable and the second analysis will use ROE as the dependent variable. The coefficient and statistical significance will be compared between the two analyses to determine the nature of the relationship between corporate governance and financial performance.

ROA assesses financial performance from a company viewpoint and ROE from an equity investor viewpoint; together the two analyses help to ensure reliability. Therefore, relationships that are found to be similar across the two analyses could be considered reliable. The data used in the dissertation come from annual reports that are verified by an external auditor. The study ensures the validity of the data by using this verified information.

3.7 Estimation Technique Validity

A fixed effects panel regression is performed to determine the relationship between the independent variables and the dependent variable. The results of the regression are tested for time-fixed effects, correlation of residuals, autocorrelation and heteroskedasticity. The presence of any one of these four will entail that the regression is re-run to control for this presence in the initial analysis. A random effects panel regression is performed to determine the relationship between the independent variables and the dependent variable. The results of the regression are tested for random effects, correlation of residuals, autocorrelation and heteroskedasticity. The presence of any one of these four will entail that the regression is re-run to control for this presence in the initial analysis. A Hausman test is performed to determine the validity of the fixed effects estimation technique for the study. The test is a chi-squared test of

the difference between the errors of a fixed and random estimation technique whose null hypothesis states a random effects estimation technique is appropriate.

3.8 Limitations

The dissertation has at least four limitations. These limitations are in sampling method, sample size, sample bias, proxy selection and measurement error. The study's use of a non-probabilistic sampling method may cause a bias in the results because the sample is made up of only companies that have no missing data. The study has a small sample set because the annual report of private long-term insurance companies in South Africa could not be accessed.

All the long-term insurance companies used in the sample adhere to the guidelines outlined in the King Report IV. The implication, therefore, is that the study analyses how adhering to the King Report IV affects financial performance in South Africa's long-term insurance industry. The study uses CEO tenure to determine this executive's likelihood to act as a steward of the company. The variable fails to consider the total duration that the individual in the position has been with the company. The importance of total company duration arises for CEO's with a short tenure but long durations. These CEOs are likely to act as stewards but a quantitative analysis of the relationship between CEO tenure and financial performance is unable to capture this nuance.

The study makes use of secondary data in the form of company annual financial statements. Therefore, differences in accounting policies between the companies may affect the rates for financial performance between companies. The implication is a potential bias in the results from the analysis. Further, the author was not able to access the stand-alone financial statements of long-term insurance providers that were in a company group structure. In this circumstance, the entire group financial statement was used creating a bias in the data because it contains information beyond the long-term insurance activities of the represented companies.

CHAPTER 4
DISCUSSION OF FINDINGS

4.1 Introduction

The chapter has four subsections after the introduction. The first and second are presentations of the descriptive statistics and correlation matrix of the regression variables respectively. The third is a presentation of the results from the panel regression. The fourth is an interpretation of the results in the context of the long-term insurance industry.

4.2 Descriptive Statistics

The discussion of the descriptive statistics on the table below is limited to two groups. The first group contains maximum and minimum values that are three standard deviations from the mean. The second group comprises maximum and minimum values that are two standard deviations from the mean. The table below presents the descriptive statistics; mean, standard deviation, minimum, maximum and number of the regression variables.

Table 4: Descriptive Statistics

Variable	Mean	Standard Deviation	Minimum Value	Maximum Value	Number of Observations
Underwriting Profits (undp)	0.1924	0.1702	-0.1964	1.0104	48
Return on Assets (roa)	0.0394	0.04820	-0.0004	0.2160	48
Return on Equity (roe)	0.2243	0.1659	-0.0477	0.5542	48
Board Size (bs)	14.3125	5.003	7	25	48
Board Independence (bind)	0.7094	0.1231	0.44	0.8889	48
Audit Committee Size (acsize)	3.8958	1.0766	3	7	48
CEO Tenure (ceot)	6.3958	6.4569	1	24	48
Firm Size (lfs)	18.5176	1.8958	14.7313	20.4021	48
Reinsurance Usage (riu)	0.1690	0.1935	0.0259	0.7483	48
Leverage (lev)	0.8675	0.1055	0.5932	0.9919	48

SOURCE: Authors Estimates in Microsoft Excel for Mac 2011

The results show that the minimum values of each variable are within three standard deviations from their mean. Underwriting profits, board independence and leverage is between two and three standard deviations from their respective mean. Whereas, board size, audit committee size, CEO tenure and reinsurance usage had maximum values between two and three standard deviations from their respective mean. Conversely,

underwriting profits and ROA are more than three standard deviations from their mean respectively.

Alexander Forbes incurred the minimum underwriting profits highlighted in table 4. The company cited insurance claims arising from unexpected weather conditions as the driver of underwriting losses during the year (Alexander Forbes, 2013). Discovery had the lowest board independence highlighted in table 4. The company had a low score because it decided to have 14 of its 25 board members be group executives (Discovery, 2015). Hollard had the lowest leverage highlighted in table 4. According to the changes observed in the company's financial statements a reduction of over 50% in total liabilities and a 40% reduction in total assets was the driver for the low leverage (Hollard, 2012 and Hollard 2013).

Alexander Forbes incurred the maximum reinsurance usage highlighted in table 4. The company improved its mining rehabilitation offering by changing the structure of its reinsurance usage (Alexander Forbes, 2013). Discovery had the longest CEO tenure highlighted in table 4. The CEO tenure is a result of the company founder staying on in the business. Liberty Holdings had the largest audit committee highlighted in table 4. The company had the largest committee because it oversaw the retirement and hiring of a committee member (Liberty Holdings, 2015). Discovery had the largest board of directors as highlighted in table 4. The company has a large board because it elected to have 14 executive board members.

Hollard had the highest ROA highlighted in table 4. According to the changes observed in the company's financial statements, an increase of over 100% accompanied by a 40% decrease in total assets, became the driver for the high ROA (Hollard 2012; Hollard 2013). Alexander Forbes had the highest underwriting profits highlighted in table 4. The company cited an increase in business by 24% as the reason for high underwriting profits (Alexander Forbes, 2016).

4.3 Correlation Matrix of Regression Variables

The discussion of the correlations on the table below is limited to two groups. The first group has correlations with values larger than 0.7. The second group has correlations between 0.5 and 0.7. Table 5 below presents the correlation matrix for the regression variables.

Table 5: Correlation Matrix

	BS	BIND	ACSIZE	CEOT	LFS	RIU	LEV	UNDP	ROA	ROE
BS	1.0000									
BIND	0.1537	1.0000								
ACSIZE	0.3893	0.6272	1.0000							
CEOT	0.4940	-0.4122	-0.1623	1.0000						
LFS	0.2897	0.4156	0.3211	-0.1974	1.0000					
RIU	0.2088	-0.0484	-0.3578	0.1969	-0.2133	1.0000				
LEV	0.0460	0.3034	0.1743	-0.4737	0.5580	0.1118	1.0000			
UNDP	-0.2432	-0.0929	-0.1447	0.0870	-0.1335	-0.0417	-0.3908	1.0000		
ROA	-0.2283	-0.3372	-0.1800	0.3624	-0.5925	-0.1915	-0.9310	0.4552	1.0000	
ROE	-0.4200	-0.2623	-0.1334	0.1244	-0.5091	-0.3211	-0.6950	0.4520	0.8904	1.0000

Note: BS=Board Size; BIND=Board Independence; ACSIZE=Audit Committee Size; CEOT=CEO Tenure; LFS=Firm Size; RIU=Reinsurance Usage; LEV=Leverage; UNDP=Underwriting Profit; ROA=Return on Assets; ROE=Return on Equity
SOURCE: Authors Estimation in STATA14

Leverage and ROA have a correlation greater than 0.7 because both variables make use of total assets as a denominator in their computation. The negative relationship between the two variables arises from interest payments from long-term liabilities reducing after-tax profits. ROE and ROA have a correlation greater than 0.7 because the computation of both variables involves the use of after-tax profits as a numerator. Additionally, the denominator contains related variables thereby causing dependence between ROE and ROA. The positive relationship between the two variables arises because directional changes in assets and equity are the same.

ROE and leverage have a correlation between 0.5 and 0.7 because either variable makes use of equity and long-term liabilities in their computation. Combined, these two variables constitute total assets (Kew & Watson, 2012a). Therefore, the ROE and leverage have an inverse relationship. Similarly, audit committee size and board independence have a correlation between 0.5 and 0.7. The positive relationship between the two variables arises due to the demand for greater transparency, especially in companies with higher board independence (Beasley & Petroni, 2001).

Leverage and firm size have a correlation between 0.5 and 0.7 because the former uses total assets as a denominator while the latter is a mathematical transformation of total assets. The negative relationship arises because an increase in total assets decreases leverage but increases firm size

ROA and firm size have a correlation between 0.5 and 0.7 because the former is a proportion of total assets while the latter is a mathematical transformation of total assets. The negative relationship arises because an increase in the asset base requires a smaller gain in after-tax profit to increase ROA. Klumpes (2004) shows that smaller firms are more productive with the use of assets relative to larger ones.

ROE and firm size have a correlation between 0.5 and 0.7 because the former's denominator is a proportion of total assets and the latter's is a mathematical transformation of total assets. The negative relationship arises because an increase in the asset base increases the equity-holders' claim to assets (Kew & Watson, 2012b). The implication is that a smaller increase in after-tax profit is required to increase ROE as a firm's asset base increases. Klumpes (2004) shows that smaller firms provide better equity returns relative to larger firms.

ROA and leverage have the highest correlation: the two variables are a dependent and independent variable respectively. Therefore, there is no need to run a stepwise regression. ROE and ROA have the second highest correlation. Both variables are dependent variables, therefore, the findings for underwriting profit will be better suited to determine the robustness of results.

Table 6: Results of Panel Regression

Models	Model 1			Model 2			Model 3		
variables	**UNDP**			**ROA**			**ROE**		
	Pooled OLS	**Fixed Effects**	**Random Effects**	**Pooled OLS**	**Fixed Effects**	**Random Effects**	**Pooled OLS**	**Fixed Effects**	**Random Effects**
BS	-1.221*	-2.415*	-1.246	-0.646***	-0.0281	-0.585***	-1.146***	-0.615	-1.187***
	(0.637)	(1.181)	(1.225)	(0.219)	(0.220)	(0.171)	(0.419)	(0.525)	(0.203)
BIND	-0.0831	0.854	-0.0642	-0.167	0.0649	-0.150	-0.105	-0.0391	-0.0868
	(0.467)	(0.464)	(0.859)	(0.160)	(0.170)	(0.107)	(0.307)	(0.291)	(0.175)
ACSIZE	1.641	1.507	1.562	1.608	0.00777	1.403*	1.934	-0.147	1.812
	(3.121)	(1.908)	(2.160)	(1.072)	(0.725)	(0.813)	(2.050)	(1.711)	(1.335)
CEOT	0.138	0.560	0.155	0.107	0.223	0.0782	0.149	0.472	0.158
	(0.489)	(0.698)	(0.840)	(0.168)	(0.185)	(0.207)	(0.321)	(0.450)	(0.346)
LFS	0.344	1.128	0.362	-0.0446	-0.126	-0.0591	-0.121	0.951	-0.0948
	(0.209)	(0.836)	(0.265)	(0.0717)	(0.484)	(0.117)	(0.137)	(0.926)	(0.188)
RIU	0.217	-0.166	0.227	-0.0252	0.111	-0.0370	-0.160	-0.0465	-0.143
	(0.198)	(0.268)	(0.206)	(0.0680)	(0.117)	(0.0829)	(0.130)	(0.208)	(0.154)
LEV	-0.567***	-1.331**	-0.572	-0.867***	-0.393	-0.867***	-0.569***	-0.326	-0.584***
	(0.207)	(0.552)	(0.384)	(0.0710)	(0.299)	(0.100)	(0.136)	(0.552)	(0.179)
constant	35.88***	51.69**	36.47***	51.78***	31.46***	50.66***	54.53***	21.56	53.60***
	(10.57)	(17.54)	(11.70)	(3.630)	(4.450)	(4.771)	(6.945)	(11.50)	(9.732)
R-squared	0.264	0.497	0.278	0.913	0.459	0.917	0.682	0.179	0.696
Hausman test (p-value)			0.0071			0.025			0.054
LM test (p-value)			1.000			1.000			1.000
Wald Chi-test (p-value)			0.335			0.000			0.000
F-stat (p-value)	0.073	0.034		0.000	0.067		0.000	0.891	
Number of Insurers		8	8		8	8		8	8
Observations	48	48	48	48	48	48	48	48	48

Note: BS=Board size; BIND= Board independence; ACSIZE= Audit committee size; CEOT=CEO tenure; LFS=Firm size; RIU=Reinsurance usage; LEV=Leverage;
*Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1*

SOURCE: Authors Estimation in STATA14

4.4 Regression Results

The subsection presents the panel regression results of the effect of corporate governance on financial performance in Table 6. The results for underwriting profit, ROA and ROE are presented in Models 1 (UNDP), 2 (ROA) and 3 (ROE) respectively. The Models are estimated using the pooled OLS, fixed effect and the Rand effects estimation technique.

4.4.1 Model Diagnostics

The presentation of the results starts with an explanation of the results obtained from the panel analysis. The presentation concludes with a selection of results to interpret between pooled OLS, fixed effects and random effects and a discussion of the fit of the model respectively.

The rejection of the null hypothesis in Model 1, 2 and 3 at the 1%, 5% and 10% levels respectively shows the Hausman test indicates the fixed effects model is suitable over the random effects model. However, the results in Models 2 and 3 show the random effects estimation method provides better explanatory power compared to the fixed effects based on the estimated r-squared.

The benefit of a fixed effects model is that it controls for unobserved variables correlated to the independent variables (Wooldridge, 2014). The fixed effect result allows for unobserved variables with a relationship to underwriting profits to be correlated with the independent variables in the model. A test for random effects was conducted and showed the model had no random effects.

The results show the fixed effects estimation technique has the best goodness of fit using the r-squared measure in Model 1 while Models 2 and 3 are estimated best using random effects. However, the Lagrange Multiplier (LM) test shows none of the three models has random effects. The result of the LM test, coupled with the Hausman test, leads to the conclusion that the fixed effects estimation technique provides a more robust set of coefficients and hence, contain less bias than those from the random effects estimation technique.

4.5 Interpretation of Results

This subsection interprets the results from the previous subsection within the context of the long-term insurance industry. The interpretation is in two sections: the first is the relationship between corporate governance and the three proxies for financial performance. The second interpretation is the relationship between company-specific variables and financial performance.

4.5.1 Corporate Governance Variables and Financial Performance

Based on the model diagnostics discussed earlier, the discussion of regression results will be based on the fixed effects and pooled OLS models.

In Model 1, the coefficient of board size is negatively related to underwriting profit under pooled OLS and fixed effects at the 10% level of significance. However, the relationship is only significant in Models 2 and 3 in the pooled OLS at the 1% level of significance. The result is at odds with the expected result through the lens of resource dependence theory. The reason for the negative relationship could be due to insurance companies having boards that are too large for the scope of their operations. The impact of such an occurrence is that the expertise brought by an additional board member does not improve financial performance. Olajide (2013) found board size is positively and statistically significantly related to ROA and ROE. The study was carried out in Nigeria with an average board size of nine compared to 14 in this research. The smaller board size in Olajide (2013) is a potential indication that the average board size of insurance companies used in that sample operates before the inflexion point of the resource dependence theory. However, Adams and Jiang (2016) also found board size is negatively related and statistically significant to financial performance under ROA. The study was carried out in the UK with an average board size of seven, lower than that of Olajide (2013). The result is a potential indication that a relatively narrow set of expertise may be needed to obtain financial performance in insurance companies.

In Model 1, the coefficient of board independence is negatively related to underwriting profit under pooled OLS and random effects but positively related under the fixed effects. However, these coefficients are not statistically significant, Model 2 had the same relationship and statistical significance as Model 1. Model 3 coefficients were negative under each estimation technique. The difference in the nature of the

relationship between ROA and ROE under fixed effects is unexpected due to the strong correlation between the two variables.

Pooled OLS and random effects show a negative statistical relationship with all three financial performance measures. The negative relationship between board independence and ROE under fixed effects could be due to the dilution of equity through share incentive packages offered to directors. The impact of share incentive packages is a reduction in the principal-agent problem but causes an increase in claimants to company assets. The increase in claimants reduces the return made by individual equity holders (Bens, Nagar, Skinner & Wong, 2003). The positive relationships observed are in line with the expected result through the lens of agency theory.

In Models 1 and 2, the coefficient of audit committee size is positively related to underwriting profits under all three estimation techniques. However, these coefficients are statistically significant only at the 10% level under random effects in Model 2. Model 3 coefficients are positive under pooled OLS and random effects but has a negative relationship under fixed effects. The difference in the nature of the relationship is unexpected due to the strong correlation between ROA and ROE.

The negative relationship between board independence and ROE under fixed effects could be due to the dilution of equity through share incentive packages offered to directors on the committee. The impact of share incentive packages is a reduction in the principal-agent problem but causes an increase in claimants to company assets. The increase in claimants reduces the return made by individual equity holders (Bens et al., 2003). Pooled OLS shows it has a positive statistical relationship with all three financial performance measures. The positive relationships are in line with the expected result through the lens of resource dependence theory.

In Models 1, 2 and 3, the coefficient of CEO tenure is positively related to financial performance. The reason for the positive relationship could be the hiring of company insiders to the position of CEO. The benefit of hiring company insiders is that the risk of the CEOs making decisions to enrich themselves at the expense of the company is reduced (Allgood & Farrell, 2003). The impact of decision-making that benefits the

company is a positive relationship between CEO tenure and financial performance, as highlighted in table 5, and is a realisation of stakeholder theory.

4.5.2 Control Variables and Financial Performance

The interpretation considers the results obtained from the fixed effects and pooled OLS models respectively. The reason behind excluding random effects is the absence of random effects in the model. The structure of the interpretation is as follows: one, a statistical interpretation of the result; two, a comparison of the result to the expected result; three, a contextual explanation; and four, a comparison of results research result to existing literature.

In Model 1, the coefficient of leverage is negatively related to underwriting profit under pooled OLS and fixed effects at the 1% and 5% level of statistical significance respectively. However, in Models 2 and 3, the coefficients are statistically significant under pooled OLS and random effects at the 1% level of statistical significance.

The reasons behind the downside pressure on financial performance highlighted by Alexander Forbes (2015) are low economic, labour force and equity market growth in South Africa. The impact of leverage, in this case, was to augment the downward pressure, hence yielding the negative relationship. A study conducted by Adams and Jiang (2016) uncovered a positive and statistically significant relationship between financial performance using ROA and ROE and leverage. The study was carried out in Kenya using a sample of two companies. The small sample size makes it inappropriate to have expected the same result because the positive relationship observed could have been specific to those two firms.

In Model 1, the coefficient of firm size is positively related to underwriting profits under all three estimation techniques. However, these coefficients are not statistically significant. In Model 2, the coefficient of firm size is negatively related to ROA under all three estimation techniques. However, the coefficients are not statistically significant. In Model 3, the coefficient of firm size is negatively related to ROA under pooled OLS and random effects but positively related under fixed effects. However, the coefficients are not statistically significant.

The difference in the nature of the relationship in Models 2 and 3 under fixed effects is unexpected due to the strong correlation between ROA and ROE. The negative relationship between firm size and ROA and ROE arises because both these measures of financial performance consider performance after total enterprise costs, unlike underwriting profits that focuses exclusively on reinsurance costs. The positive relationships are in line with the expected result through the lens of economies of scale.

In Model 1, the coefficient of reinsurance usage is positively related to underwriting profits under pooled OLS and random effects but negatively related under fixed effects. However, these coefficients are not statistically significant. In Model 2, the coefficients are negatively related to ROE under pooled OLS and random effects but positively related under fixed effects. However, these coefficients are not statistically significant. In Model 3, the coefficients are negatively related under all three estimation techniques. However, these coefficients are not statistically significant.

The difference in the nature of the relationship in Models 2 and 3 under fixed effects is unexpected due to the strong correlation between the variables. The negative relationship between ROE and underwriting profits under fixed effects arises due to a reduction in profitability. Reinsurance usage reduces profitability by reducing net premiums. The lower net premium means equity holders have a claim to lower profits and the profitability of underwriting services falls adversely, affecting ROE and underwriting profits respectively. The positive relationships are in line with the expected result through the lens of reducing the insured's claim on assets after a trigger event.

CHAPTER 5
CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The chapter has three subsections after the introduction. The first subsection is a summary and the conclusions of the study. The second is a policy recommendation based on the results of the study. Finally, potential avenues of future research based on the dissertation's findings are presented.

5.2 Summary and Conclusion

The purpose of the dissertation was to determine if corporate governance and company-specific variables affect the financial performance of long-term insurance providers in South Africa. The research was conducted using a panel regression analysis using eight companies for the period 2011 to 2016. The sample accounted for over 94% of the assets held by the sector according to KPMG (2018).

The results from the study showed board size and leverage are negatively and significantly related to financial performance in South Africa's long-term insurance industry. The finding with regard to board size was unexpected because resource dependence theory suggests larger boards are positively related to financial performance. Olajide (2013) and Najjar (2012) support the conclusion of this theory and it is highlighted in this study by the positive relationship between audit committee size and financial performance.

The finding with regard to leverage was not unexpected because executive teams in the sector have the flexibility to independently determine the degree of leverage in their companies. The observed negative relationship was due to the adverse economic conditions highlighted by Alexander Forbes (2015) of low economic growth, labour force and equity market growth that augmented poor financial performance.

The significant unexpected finding from the study was that board independence, audit committee size and CEO tenure did not have a statistically significant relationship with financial performance. The finding was due to each company in the sample following the guidelines outlined in the King Report IV on Corporate Governance. Therefore, all

the companies have similar governance structures. Board size was found to be statistically significant because the King Report IV on Corporate Governance does not make a recommendation on the maximum size of a company's board. The explanation would imply that audit committee size would also have to be statistically significant because there is also no recommendation made on its size. The logical extension does not apply to the audit committee because its size is a function of the size of the board of directors, therefore, its impact is observed through the size of the board.

The application of the recommendations outlined in the King Report IV on Corporate Governance by each company in the sample had an impact on the results. The effect was board size was the only corporate governance variable that was statistically significantly related to financial performance. The negative relationship may indicate that the size of the boards of directors in the sector is too large or that these directors do not bring the required expertise to their companies.

5.3 Policy Recommendations

The study found board size and leverage to be the only variables with a statistically significant relationship to financial performance. The findings lead to policy recommendations around the King Report IV, board size requirements and regulation of the South African long-term insurance industry.

The results show that guidelines on corporate governance outlined in the King Report IV do not cause any distortions to financial performance in the sector. The guidelines help to ensure transparency in the affairs of the organisations that implement them through effective and ethical leadership. The importance of transparency in the long-term insurance industry is that it allows the insured to assess the ability of the insurer to meet their claims should they arise. Based on the results of the study, the dissertation recommends that the guidelines on corporate governance in the King Report IV become statutory for long-term insurance providers in South Africa.

The results show that board size has a negative and statistically significant relationship with financial performance in the sector. There is currently no guideline or regulation in South Africa on the maximum number of board members which a long-term insurance provider is permitted to have. The dissertation recommends a board size

ceiling to address the negative impact of larger boards on financial performance in the sector. The recommendation can be made through the IoD in the King Report IV due to its credibility on corporate governance.

The results show that leverage has a negative and statistically significant relationship with financial performance in the sector. There is currently no guideline or regulation in South Africa on the maximum level of permitted leverage (Government Gazette, 2018). The research recommends a leverage ceiling to address the negative impact of high levels of leverage on financial performance in the sector. The Basel Committee on Banking Supervision's (2001) Basel accord, which sets a guideline on the level of risk exposure banks should have, has influenced this recommendation. The justification for using this influence is insurance companies are a constituent of the unregulated 'shadow' banking sector (Luo, 2018).

5.4 Avenues for Future Research

The findings of the research open avenues for research to understand the relationship between corporate governance variables and financial performance in the South African long-term insurance sector. The paths for further research arise from the results and research design.

The results can lead to further research to determine the number of board members and the level of leverage that will optimise the financial performance of long-term insurance providers in South Africa. The research would provide empirical evidence to implement the second and third policy recommendations made by the dissertation respectively. Additionally, a study that uses financial and operational leverage to investigate their relationship with financial performance can be carried out. A study in this area would provide better information required to implement the third recommendation made by the dissertation. Further, the KPMG long-term insurance industry survey which showed the four companies controlling 94% of the assets in its 18 companies, and the finding of Boakye (2018) that the industry is only 21% efficient, suggests a study similar study to the one carried out by Alhassan, Addison and Asamoah (2015) may need to be carried out in South Africa. The purpose of such a study would be to get policy-makers to understand the structure of the long-term insurance industry in order for them to put

in place adequate policies to improve the efficiency of the industry without reducing its profitability.

Research design leads to further research to determine the impact of the application of the guidelines of the King Report IV in South Africa's long-term insurance sector and how corporate governance variables affect a company's profit efficiency. A study to conduct the first path described would involve a cross-border comparison of the relationship investigated in this dissertation by using a country that has no formal corporate governance framework and South Africa. The results from such a study would have a higher accuracy because it mimics a randomised control trial where the South African countries are the control group. The second path described would involve the creation of a profit efficiency score by using a DEA and entailing a regression of the score against corporate governance variables. The results from such a study would provide a nuanced view of the relationship between corporate governance and financial performance in South Africa's long-term insurance sector because it analyses drivers for the change in profitability. To overcome the limitation of the small sample size faced in this study, future research should request the annual reports from a larger sample of FSB-accredited long-term insurance companies.

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APPENDIX

List of Sampled Long-term Insurance Companies

Name of Company
Alexandre Forbes
Clientele Life Assurance
Discovery
Hollard
Liberty Life
MMI Holdings*
Old Mutual
Sanlam

The consolidation of Momentum and Metropolitan Insurance that are registered separately with the Financial Services Board